REMARKS

The Office Action dated May 23, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 2, 13-23, and 25, are amended to more particularly point out and distinctly claim the subject matter of the present invention. New claims 26 and 27 are added. Support for the amendments is found at least on page 4 lines 18-21 of the present specification. Thus, no new matter is added. Claims 1-27 are respectfully submitted for consideration.

Applicants are grateful for the courtesies extended to Applicant's representative during the telephone conference of June 13, 2007 in which the status of the current Office Action was discussed. On page 2, the Office Action inadvertently indicates that the current Office Action is "Final". However, as discussed and agreed upon during the telephone conference, since the Office Action contains new grounds for rejection, the Office Action should be "non-final" as indicated in PAIR.

The Office Action rejected claims 1-3, 5, 10-15, 17, and 22-25 under 35 U.S.C. 103(a) as being obvious over US Patent Publication No. 2005/0136890 to Lippelt, in view of International Publication No. WO 02/15554 to Ala-Luukko (Sami). The Office Action took the position that Lippelt disclosed all of the features of these claims except that the accounting client is configured to send charging update data to the accounting server during the call, and the accounting server is configured to collate the charging

update data on the basis of the accounting session identifier, thereby enabling updating of the prepaid credit during the call. The Office Action asserted that Sami disclosed these features. Applicants respectfully submit that the cited references, taken individually or in combination, fail to disclose or suggest all of the features recited in any of the pending claims.

Claim 1, from which claims 2-12 depend, is directed to a method of charging against prepaid credit in a communication network. Establishment of a call between a first terminal and a second terminal is requested. It is ascertained whether any costs generated by accounting clients in the network, and associated with the call, are to be charged against prepaid credit. In the event some or all of the costs are to be charged against prepaid credit, an accounting session is established between an accounting server and the accounting client that will generate the costs to be charged against the prepaid credit, the accounting session being allocated an accounting session identifier. The call is established with the second terminal. Charging update data is sent from the accounting client to the accounting server during the call. The charging update data is collated in the accounting server based on the accounting session identifier, thereby enabling updating of the prepaid credit during the call, wherein the charging update data includes the accounting session identifier.

Claim 13, from which claims 14-24 depend, is directed to a communication network configured to allow charging against prepaid credit in relation to a first terminal in a network including an accounting server and an accounting client capable of

generating costs associated with a service in the network. A request is accepted from the first terminal for establishment of a call between the first terminal and a second terminal. It is determined whether any costs generated by accounting clients in the network and associated with the call, are to be charged against prepaid credit. In the event some or all of the costs are to be charged against prepaid credit, an accounting session is established between the accounting server and the accounting client that will generate the costs to be charged against the prepaid credit, the accounting session being allocated an accounting session identifier. The call is established with the second terminal. The accounting client is configured to send charging update data to the accounting server during the call. The accounting server is configured to collate the charging update data on the basis of the accounting session identifier, thereby enabling updating of the prepaid credit during the call, wherein the charging update data includes the accounting session identifier.

Claim 25 is directed to a system to charge against prepaid credit in a communication network. A requesting means is configured for requesting establishment of a call between a first terminal and a second terminal. An ascertaining means is configured for ascertaining whether any costs generated by accounting clients in the network, and associated with the call, are to be charged against prepaid credit. A first establishing means is configured for establishing, in the event some or all of the costs are to be charged against prepaid credit, an accounting session between an accounting server and the accounting client that will generate the costs to be charged against the prepaid credit. The accounting session is allocated an accounting session identifier. A second

- 14 -

establishing means is configured for establishing the call with the second terminal. A sending means is configured for sending charging update data from the accounting client to the accounting server during the call. A collating means is configured for collating the charging update data in the accounting server based on the accounting session identifier, thereby enabling updating of the prepaid credit during the call, wherein the charging update data includes the accounting session identifier.

Embodiments of the present invention provide for online charging of prepaid accounts with the ability to update charging data during a call. Thus, it is possible to update ongoing accounting sessions, manage online chargeable events, or manage change in charging tariff. Advantageously, this means that post and prepaid mechanisms are distinguished and this decreases the signaling load, and the amount of logical functionality needed in the server side is decreased (see page 2, line 29 - page 3, line 19, and page 15, lines 9 - 14 of the present specification).

By including the accounting session identifier in the charging update data, each accounting session has a unique identification. Thus, each accounting session can be identified and processed. For example, according to one embodiment of the present invention (e.g. see page 10, lines 2 to 6 of the present application), the charging update data is collated based on the global session ID, which allows the combining of different accounting sessions, but still permits identification of each unique accounting session. Applicants submit that each of the above claims recites features that are neither disclosed nor suggested in any of the cited references.

As discussed in previous correspondence, Lippelt discloses a charging method for a communication service, particularly a prepaid communications service, in a communications system. A prepaid service processing node (PSPN) processes a communications service. A prepayment support mode (PPSC) administers a prepaid service account. A prepayment support node information (PI) is received from a subscriber profile database (SPD) and a prepayment support node address (PA) is determined from the prepayment support node information (PI). A request for the communications service to be charged on a subscribers prepayment account is detected and a credit information request is sent to the PPSC, which then responds with a credit information message.

The credit information may be a time value or a traffic volume (see paragraph 0026). The credit can be deducted from the prepaid service account by the PPSC in a step wise fashion, for instance in blocks of one minute, such that the risk is minimized to an unpaid air time of one minute if the account becomes empty (see paragraph 0028). Therefore, the PSPN is granted a credit value of one minute by the PPSC in response to a credit information request, and when this credit is below a certain threshold another credit information request message must be sent.

The Office Action admits that Lippelt does not disclose sending charging update data from the accounting client to the accounting server during the call. The communications system of Lippelt operates by merely providing a credit value to the service processor PSPN which then consumes the value either in discrete steps or

continuously. Indeed, Lippelt only discloses sending a message from the PSPN to the PPSC which is a credit information request message. The credit information request message does not include charging update data.

The Office Action further admits that Lippelt does not disclose collating the charging update data in the accounting server based on the accounting session identifier, thereby enabling updating of the prepaid credit during the call. The reference parameter (RT), which is part of the credit information request message or the credit information message, is used to identify those messages and identify a charging transaction (see page 17, lines 1 to 6). Neither of these messages includes charging update data. Furthermore, since Lippelt does not send charging update data in the credit information request, neither does Lippelt disclose providing charging update data including an accounting session identifier. Therefore, these messages cannot be used to collate the charging update data.

Sami is directed to prepaid service in a packet-switched mobile communication network, in which the mobile terminal is delivered information as long as there is a prepaid balance left. Use of the pre-paid service is barred if the balance indicated in the database is not sufficient for using the service. See page 6 lines 20-26. Sami further discloses a system for implementing a prepaid service in a packet-switched mobile communication network in which the mobile station is delivered information or services as requested as long as there is prepaid balance left. A control server (IMS) is used to monitor the traffic between the mobile station (MS) and the content server (CS) after an activation request of data service is sent from the mobile station. A prepaid service

balance in a billing database (DB) is updated for use of the data servers based on the monitoring of the control service (IMS).

Applicants respectfully submit that the cited references fail to disclose or suggest at least the features of "sending charging update data from the accounting client to the accounting server during the call," and "collating the charging update data in the accounting server based on the accounting session identifier, thereby enabling updating of the prepaid credit during the call, wherein the charging update data includes the accounting session identifier" as recited in claim 1 and similarly recited in claims 13 and 25. More specifically, Applicants submit that Sami fails to cure the admitted deficiencies of Lippelt.

Sami, (see page 6, lines 20 - 26) merely describes sending charging update data from the accounting client to the accounting server during the call, and during monitoring of the traffic between the mobile station and the content server, the balance of the prepaid service is checked from the billing database. However, checking the balance of the prepaid service from the billing database does not mean or include that information regarding charging is sent from the content server (CS) or the control server (IMS) to the database (DB). Sami fails to even mention sending information between either the content server or the control server to the database, let alone charging update data as recited in the presently pending claims.

Furthermore, Applicants respectfully submit that Sami discloses that the balance of the subscriber is actively updated during the connection. However, Sami does not

disclose that charging update data is sent from the control server to the database. It appears that the Office Action is equating active updating of the prepaid balance of a subscriber, to sending charging update data from the accounting client to the accounting server during a call. However, Applicant respectfully submits that this is not the case.

As discussed above, Sami merely describes that the prepaid balance of the subscriber is updated during a connection (e.g. costs to be charged against prepaid credit). However, merely updating the prepaid balance of the subscriber does not mean that Sami discloses sending charging update data. In fact, Sami merely teaches updating the prepaid balance during a call, which is similar to the teaching of Lippelt. The passage at page 12, lines 14 to 19 of Sami discloses that the costs resulting from use of the service are deducted from the subscribers balance. This is clearly different from sending charging update data.

Still further, Applicants respectfully submit that Sami does not even mention situations wherein the tariff changes during an established session. Therefore, one skilled in the art would understand that the balance of a prepaid subscriber would merely be adjusted during a call in a similar fashion to Lippelt.

Applicants further submit that the cited references fail to disclose or suggest at least the feature of "the charging update data includes the accounting session identifier", as recited in claims 1, 13 and 25. As mentioned previously, Sami is silent on providing the feature of sending charging update data from the accounting client to the accounting

server. Applicants further submit that Sami is silent regarding including an accounting session identifier.

In fact, Sami merely discloses that the billing database is updated by using the IMSI (International Mobile Subscriber Identification) or the subscriber number (e.g. see page 6 line 27 to page 7 line 3). However, the IMSI is not an accounting session identifier – it is merely a subscriber identifier. Therefore, in Sami the IMSI or the subscriber number will be the same for any particular mobile terminal irrespective of the accounting session. Sami fails to teach how to distinguish between different accounting sessions on the same mobile terminal.

As discussed above, Lippelt does not disclose or suggest providing charging update data including the accounting session identifier during the call. Lippelt merely describes that the only information which is sent from the PPSC (which manages prepaid accounts of subscribers) to the PSPN (which processes prepaid services) is the credit information request message, or the credit information message. Thus, none of the parameters in the message relate to charging update data during an on-going call.

As discussed above, by including the accounting session identifier in the charging update data, each accounting session has a unique identification. This means that each accounting session can be identified and processed. This feature is neither disclosed nor suggested in any of the cited references.

Applicants further submit that because claims 2-3, 5, 10-12, 14, 15, 17, and 22-24 depend from claims 1 and 13, these claims are allowable at least for the same reasons as claims 1 and 13, as well as for the additional features recited in these dependent claims.

Based at least on the above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the features recited in claims 1-3, 5, 10-15, 17, and 22-25. Accordingly, withdrawal of the rejection under 35 U.S.C. 103(a) is respectfully requested.

The Office Action rejected claims 4 and 16 under 35 U.S.C. 103(a) as being obvious over Lippelt and Sami, in further view of US Patent No. 6,496,690 to Cobo (Cobo). The Office Action took the position that Lippelt and Sami disclosed all of the features of these claims except that the accounting client is one of SGSN/GGSN, S-CSCF/P-CSCF and a network application server. The Office Action asserted that Cobo disclosed this feature. Applicants submit that the cited references taken individually or in combination, fail to disclose or suggest all of the features recited in any of the above claims. Specifically, Lippelt and Sami are deficient at least for the same reasons discussed above, and Cobo fails to cure these deficiencies.

Cobo is directed to providing pre-paid subscriber service to a mobile subscriber in an integrated wireless network having a circuit-switched portion and a packet-switched portion. A prepaid subscriber class is sent to a SGSN, or to a GGSN when the packet-switched portion registers with the network. See col. 4 lines 65 – col. 5 line 16.

However, Applicants respectfully submit that Cobo fails to cure the significant deficiencies of Lippelt and Sami discussed above.

Based at least on the above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the features recited in claims 4 and 16. Accordingly, withdrawal of the rejection under 35 U.S.C. 103(a) is respectfully requested.

The Office Action rejected claims 6-9 and 18-21 under 35 U.S.C. 103(a) as being obvious over Lippelt and Sami, in further view of US Patent No. 6,947,724 to Chaney (Chaney). The Office Action took the position that Lippelt and Sami, disclosed all of the features of these claims except establishment of the call is made via a session initiation protocol (SIP). The Office Action asserted that Chaney disclosed this feature. Applicants respectfully submit that the cited references fail to disclose or suggest all of the features recited in any of the above claims. Specifically, Lippelt and Sami are deficient at least for the reasons discussed above, and Chaney fails to cure these deficiencies.

Chaney is directed to billing a call placed by a user, based on the reported traffic load. According to Chaney, in a SIP network, users register their existence on a sub-network through a Call State Control Function (CSCF). Each user has a SIP ID which is an address which follows the user to different terminals. According to one example, when a user sits at his office desk he/she can register as being at this desk. The desk phone then sends a SIP REGISTER message wit the user's SIP ID to the CSCF, so that

the user's calls can be routed. However, Applicants respectfully submit that Chaney fails to cure the significant deficiencies of Lippelt and Sami discussed above.

Based at least on the above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the features recited in claims 6-9 and 18-21. Accordingly, withdrawal of the rejection under 35 U.S.C. 103(a) is respectfully requested.

As stated above, new claims 26 and 27 are added. Applicants respectfully submit that each of claims 26 and 27 recites features that are neither disclosed nor suggested in any of the cited references.

Applicants respectfully submit that each of claims 1-27 recite features that are neither disclosed nor suggested in any of the cited references. Accordingly, it is respectfully requested that each of claims 1-27 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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Enclosures: Petition for Extension of Time
              Additional Claim Fee Transmittal
              Check No. 17142